

**Khoa : Xây dựng**  
**Bộ môn : Cầu đường**  
**Giảng viên : Nguyễn Thị Bích Thủy**

**TẬP BÀI GIẢNG**

Môn học : **ANH VĂN CHUYÊN NGÀNH XÂY DỰNG** Mã môn học: ENG- 330  
Số tín chỉ : .....02 .....trong đó Lý thuyết : ....02...Thực hành :.....0.....  
Dành cho sinh viên ngành : Xây dựng DD&CN + Xây dựng Cầu đường  
Khoa/Trung tâm :.....Xây dựng .....  
Bậc đào tạo :.....Đại học, Cao đẳng, Liên thông.....  
Học kỳ :.....I ..... Năm học :..... thứ 5 .....

**PHÂN BỐ GIỜ GIẢNG DẠY : 30 giờ (02TC)**

<b>GIỜ THỨ</b>	<b>NỘI DUNG</b>	<b>TRANG</b>
1,2,3,4	Unit 1: Teamwork	1 – 2
5,6,7,8	Unit 2: Design	3 - 4
9,10,11,12	Unit 3: Equipments	5 – 9
13,14,15,16	Unit 4: Materials	10 - 11
17,18,19,20	Unit 5: Processes	12 - 14
21,22,23,24	Unit 6: Projects	15 – 16
25,26,27,28	Unit 7: Documentation	17 - 18
29,30	Unit 8: Health and Safety	19 - 21

## **Unit 1: TEAMWORK**

### \* Content :

- 1.1. Vocabulary
- 1.2. Speaking
- 1.3. Reading
- 1.4. Listening

### \* Teaching methods:

- Lecture, presentation with PP
- Q&A, discussion

### \* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*, ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

## **Unit 2: DESIGN**

### \* Content :

- 2.1. Vocabulary
- 2.2. Speaking
- 2.3. Reading
- 2.4. Listening

### \* Teaching methods:

- Lecture, presentation with PP
- Q&A, discussion

### \* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*, ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

## **Unit 3: EQUIPMENT**

### \* Content :

- 3.1. Vocabulary
- 3.2. Speaking
- 3.3. Reading
- 3.4. Listening

### \* Teaching methods:

- Lecture, presentation with PP
- Q&A, discussion

\* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*; ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

**Unit 4: MATERIALS**

\* Content :

4.1. Vocabulary

4.2. Speaking

4.3. Reading

4.4. Listening

\* Teaching methods:

- Lecture, presentation with PP

- Q&A, discussion

\* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*; ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

**Unit 5 PROCESSES**

\* Content :

5.1. Vocabulary

5.2. Speaking

5.3. Reading

5.4. Listening

\* Teaching methods:

- Lecture, presentation with PP

- Q&A, discussion

\* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*; ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

**Unit 6: PROJECTS**

\* Content :

6.1. Vocabulary

6.2. Speaking

6.3. Reading

6.4. Listening

\* Teaching methods:

- Lecture, presentation with PP
- Q&A, discussion

\* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*; ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

## **Unit 7: DOCUMENTATION**

\* Content :

- 7.1. Vocabulary
- 7.2. Speaking
- 7.3. Reading
- 7.4. Listening

\* Teaching methods:

- Lecture, presentation with PP
- Q&A, discussion

\* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*; ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

## **Unit 8: HEALTH AND SAFETY**

\* Content :

- 8.1. Vocabulary
- 8.2. Speaking
- 8.3. Reading
- 8.4. Listening

\* Teaching methods:

- Lecture, presentation with PP
- Q&A, discussion

\* Documents:

[1] **Evan Frendo**, *English for Construction Level 2*; ISBN 978-1408269916; Pearson; 2012.

[2] **Nguyễn Thị Bích Thủy**; *English for Construction*; Đại học Duy Tân; 2016.

**Biên soạn**

**Xét duyệt của Trưởng bộ môn**

.....  
.....  
.....  
.....

*Đà Nẵng*, ngày ... tháng ... năm ...

**Kết quả kiểm tra tập bài giảng**

.....  
.....  
.....  
.....

*Đà Nẵng*, ngày ... tháng ... năm ...

Phòng Thanh Tra

## MỤC LỤC

UNIT 1: TEAMWORK .....	1
1.1. VOCABULARY .....	1
1.2. SPEAKING .....	2
1.3. READING .....	2
1.4. LISTENING.....	3
UNIT 2: DESIGN .....	6
2.1. VOCABULARY .....	6
2.2. SPEAKING .....	7
2.3. READING .....	9
2.4. LISTENING.....	10
UNIT 3: EQUIPMENT .....	12
3.1. VOCABULARY .....	12
3.2. SPEAKING .....	13
3.3. READING .....	13
3.4. LISTENING.....	14
UNIT 4: MATERIALS.....	15
4.1. VOCABULARY .....	15
4.2. SPEAKING .....	15
4.3. READING .....	16
4.4. LISTENING.....	17
UNIT 5: PROCESSES .....	20
5.1. VOCABULARY .....	20
5.2. SPEAKING .....	20
5.3. READING .....	21
5.4. LISTENING.....	22
UNIT 6: PROJECTS.....	24
6.1. VOCABULARY .....	24
6.2. SPEAKING .....	25
6.3. READING .....	25
6.4. LISTENING.....	27

UNIT 7: DOCUMENTATION .....	28
7.1. VOCABULARY .....	28
7.2. SPEAKING .....	29
7.3. READING .....	29
7.4. LISTENING.....	30
UNIT 8: HEALTH AND SAFETY .....	32
8.1. VOCABULARY .....	32
8.2. SPEAKING .....	33
8.3. READING .....	34
8.4. LISTENING.....	35



## UNIT 1 TEAMWORK

### Objectives:

- *Talk about roles and responsibilities*
- *Explain how an organization works*


### 1.1. VOCABULARY

📄 Using words in the box to complete these sentences and match those descriptions with the people in the picture.

Site manager	Security guard	Driver	Reporters	Electrician	Painter
--------------	----------------	--------	-----------	-------------	---------




1. I'm \_\_\_\_\_. I work for a concrete supplier. We deliver concrete to construction sites all over the country.
2. I'm \_\_\_\_\_. This is my apprentice.
3. I'm \_\_\_\_\_. Today I'm painting a steel staircase.
4. I'm \_\_\_\_\_. I control access to the site. I'm responsible to the site manager.
5. I'm \_\_\_\_\_. My company is responsible for the whole project.
6. We're \_\_\_\_\_. We're visiting the site to ask some questions.


 List some jobs in construction industry and complete this table

Tradesmen	Trades
1. Site manager	a. repair pipes, baths, toilets etc
2. Plumber	b. design buildings
3. Welder	c. make and repair wooden objects
4. Bricklayer	d. connect or repair electrical wires or equipment
5. Glazier	e. fit glass into window frames
6. Security guard	f. paint houses or other buildings
7. Architect	g. weld metal in a factory
8. Carpenter	h. Build walls, buildings, etc with bricks
9. Electrician	i. Be responsible for the whole project
10. Painter	j. Control access to the site

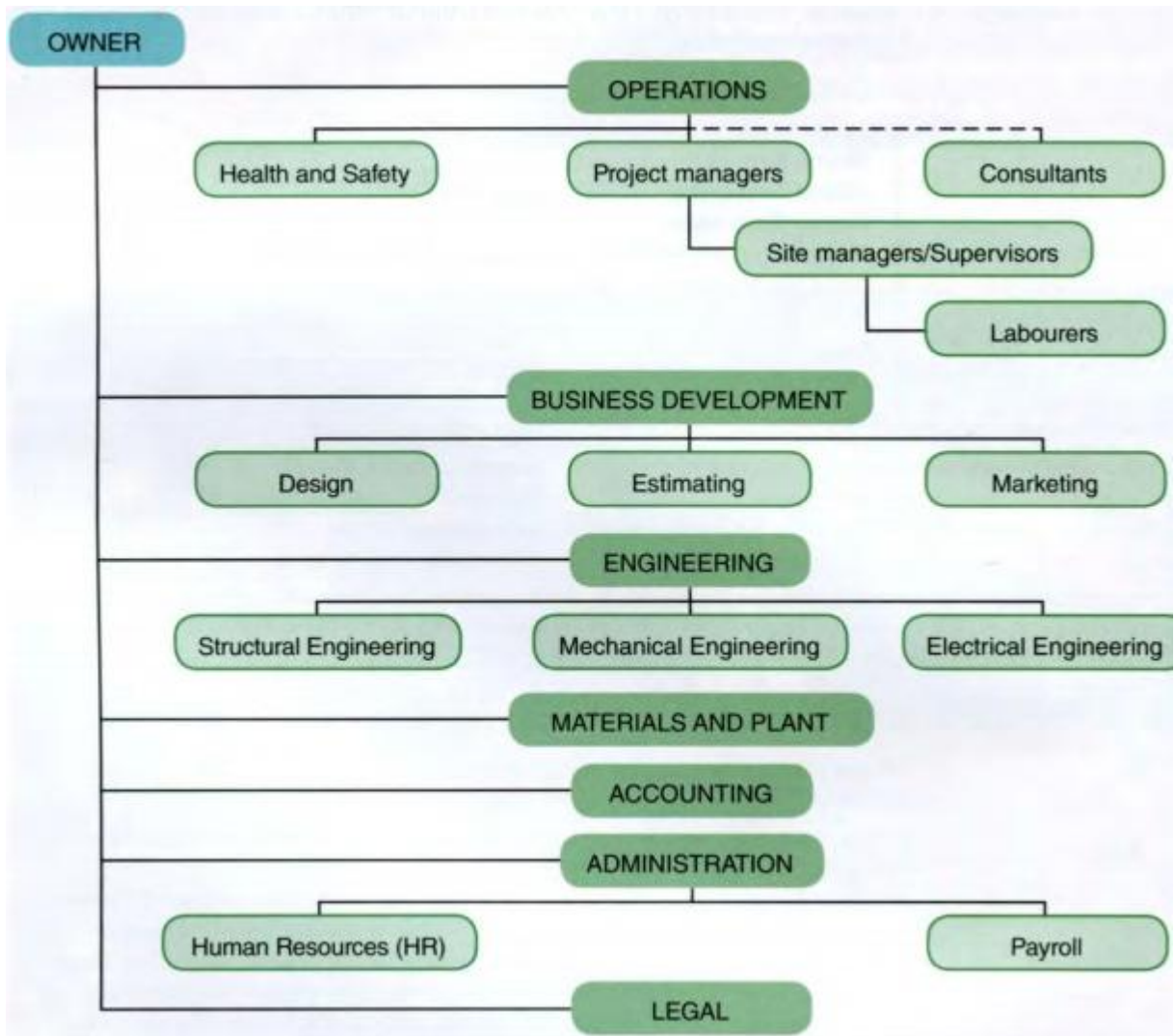
### 1.2. SPEAKING

 Work in pairs. Explain what your jobs is and what you do. Example like this  
*I'm a ...      I work for ...      My company ...      I'm responsible for ...*

### 1.3. READING

 Look at this organization chart of a construction company and complete the sentences with the word in the box

departments    divided    external    has    look    part    report    section    top



1. Our company has a simple structure. At the \_\_\_\_\_ is the Kasper Karp, the owner.
2. There are seven \_\_\_\_\_. The department heads report to the owner.
3. Operations consists of a Health and Safety \_\_\_\_\_ and all the project managers.
4. The site managers and supervisors \_\_\_\_\_ directly to a project manager.
5. Business Development is \_\_\_\_\_ into three sections: Design, Estimating and Marketing.
6. Engineering also \_\_\_\_\_ three sections: Structural, Mechanical and Electrical.

7. There are different departments which \_\_\_\_\_ after materials and plant, accounting, administration and legal.
8. Sometimes we have \_\_\_\_\_ consultants to help with special jobs. They are not \_\_\_\_\_ of the company.

#### 1.4. LISTENING

① Two reporters are visiting Martin Karp from Karp Construction. Listen and complete the conversation below

M: So ... how can I help you?

S: Well, we'd like some \_\_\_\_\_(1) information about the project.

M: OK, I can ask my \_\_\_\_\_(2) to send you some details. We sent out a press release a couple of weeks ago.

S: Yes, we have a copy of that, thank you. We're interested in finding out more information about the people working here. How many \_\_\_\_\_(3) do you have on site? What do they do? Where are they from? Are they all local people?

M: Oh, that depends on what's happening. As you can imagine, this is quite a \_\_\_\_\_(4) business, so we have different \_\_\_\_\_(5) and \_\_\_\_\_(6) coming in and out all the time.

S: OK.

M: But, to answer your question, I'd say we usually have about 100 people on site. And they're mostly from this area.

A: And you're in charge of the site?

M: Well, yes, my company - actually, my father's company - is the \_\_\_\_\_(7) for the project. We co-ordinate all the subcontractors and make sure things stay on schedule and stay within budget. I report to the \_\_\_\_\_(8), Sabina Tom.

A: I see. And your father is Kasper Karp?

M: Yes, that's right. Sometimes, on bigger projects, we work in a consortium with other \_\_\_\_\_(9) and \_\_\_\_\_(10).

S: Could you tell us something about...?

M: Excuse me, I've just seen Mr Lang. He's walking through the gate. He represents the \_\_\_\_\_(11), and I have a meeting with him and Anna Black in a few minutes' time ...

S: Anna Black?

M: Anna works for the \_\_\_\_\_(12), DKI Cement. They're supplying all the cement for the project. Just a moment, please. My assistant, Robert Lane, will answer any further questions you have.

S and A: Thank you.

① Listen a the heads of the seven departments talking about their roles.

Write the names of their departments. Use the organisation in 1.3 to help you.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

## UNIT 2 DESIGN

### Objectives:

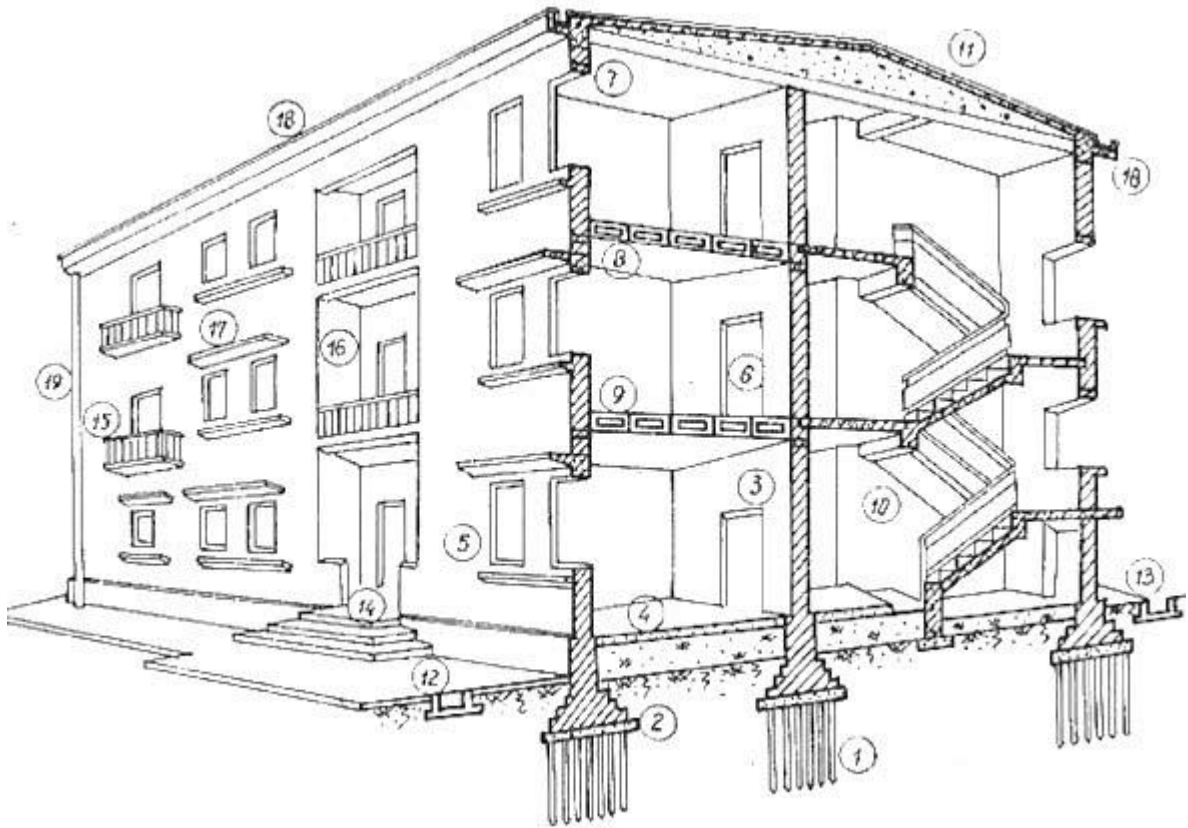
- *Describe technical drawings*
- *Estimate*

### 2.1. VOCABULARY

 Complete this table about drawings





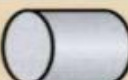

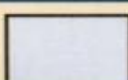
Words	Meanings
1. Elevation	a. A 2D representation of a 3D object
2. Beam	b. The view from one side
3. Roof	c. The view when you cut through an object
4. Projection	d. The view from above
5. Girder	e. A long heavy piece of wood or metal used in houses, bridges, etc
6. Column	f. Strong beam, made of iron or steel
7. Frame	g. A frame supporting a roof or bridge
8. Plan view	h. Structural element that transmits, through compression, the weight of the structure above to other structural elements below
9. Truss	i. An upright flat structure made of stone or brick, that divides or surrounds an area
10. Section	j. The main supporting parts of houses, bridges, etc
11. Wall	k. The structure that covers the top of a building

Look at the picture and name the elements numbered:



Floor – pavement – foundation – pile – gutter – down pipe – foundation – steps – wall – window – balcony- drainage ditch – door – lintel – drip mould – roof – wall strut - stairs

Complete this table about some shapes

1 _____		a triangle	a(n) <sup>2</sup> _____ truss
3 _____		an I-shape	a(n) <sup>4</sup> _____ girder
5 _____		a circle	a circular rod
6 _____		a square	a(n) <sup>7</sup> _____ beam
8 _____		a cylinder	a cylindrical can
9 _____		a(n) <sup>10</sup> _____	a spherical damper
11 <u>A</u>		a rectangle	a(n) <sup>12</sup> _____ room



## 2.2. SPEAKING

☺ Note how we say dimensions and calculations

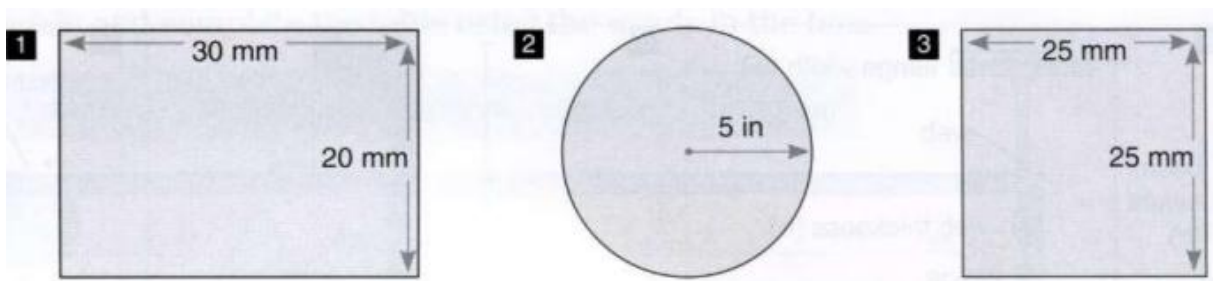
WRITING	SAYING
2.000 m	two thousand metres
0,03 cm	zero (or nought) <u>point</u> oh three centimetres
1,34 m	one <u>point</u> three four metres
3m x 4 m	three meters <u>by</u> four metres
25 m <sup>2</sup>	twenty-five <u>square</u> metres
600 m <sup>3</sup>	Six hundred cubic metres
200 ± 1 mm	two hundreds millimetres <u>plus or minus</u> one millimetre
1:100	one <u>to</u> one hundred
20 x 30 = 600	Twenty <u>multiple by (times)</u> thirty is/equals 600
12/5	Twelve <u>divided by</u> five
$\pi r^2$	Pi r squared
$2\pi r$	Two pi r
$\sqrt{64} = 8$	<u>The square root of</u> sixty four is eight

☺ Say these dimensions and calculations:

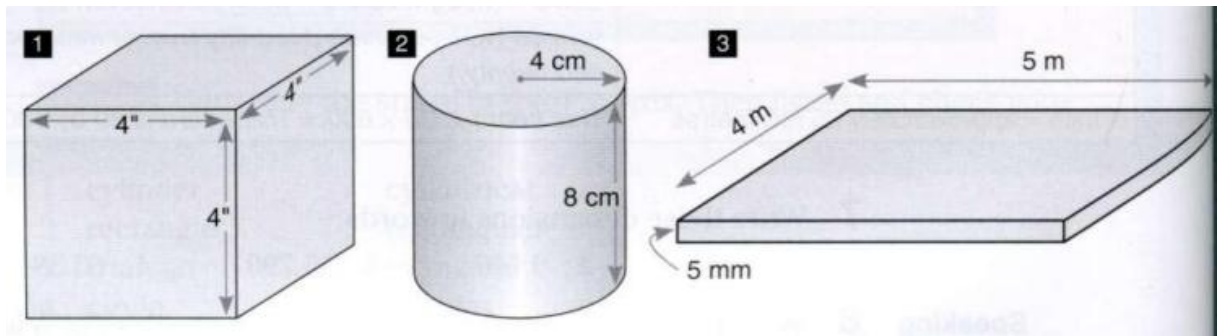
- |               |                        |
|---------------|------------------------|
| 1 3.065 mm    | 5 2,500 sq ft          |
| 2 3'4"        | 6 4,632 m <sup>2</sup> |
| 3 34 m x 28 m | 7 0.045 cm             |
| 4 26' ± ½ "   |                        |

- |                     |                           |
|---------------------|---------------------------|
| 1 $5 \times 6 = 30$ | 4 $5 + 3 - 1 = 7$         |
| 2 $100 / 5 = 20$    | 5 $7^2 = 7 \times 7 = 49$ |
| 3 $\sqrt{36} = 6$   |                           |

☺ Calculate the areas and volumns







### 2.3. READING

*Read this text and answer some questions*

A building is made up of various types of structural elements such as beams, girders, trusses, columns, walls, frames, roofs, etc. They can be used independently or in combination to establish a structural system.

Columns and beams may be constructed of wood, steel or reinforced concrete. Cast iron was widely used at one time for columns and for short beams such as lintels, but steel and reinforced concrete has largely replaced it. Nowadays, wrought iron has been entirely replaced by steel. Reinforced concrete beams and columns may be poured in place to form a rigid frame. In industrial buildings, they are usually prefabricated in a factory or in a casting yard.

Truss is a member consisting of a group of triangles, arranged in a single plane, long span trusses are usually constructed of steel, others are constructed of wood or reinforced concrete. Most trusses are pre-cast units.

Rigid frames are constructed of wood, reinforced concrete and steel.

Floors are usually constructed of wood, reinforced concrete. Concrete beams, girders, and floor slabs may be poured in place, occasionally, they are precast units.

The walls of a dwelling house are usually constructed of bricks, or stone, In multi-storey buildings, they are constructed of wall panels. A building may be classified on the basis of the function of the walls. If the walls carry the loads, in addition to keeping out the weather, the building is classified as wall bearing construction. But if the loads including the weight of the wall are carried by the structural frame, the building is classified as skeleton structure. In this case, the walls are to keep out the weather, so they are called curtain walls.

The roof of a dwelling house is usually a gable roof, consisting of king-post trusses, purlins, rafters which are covered with tiles. In most buildings, the roof is a reinforced concrete flat roof, which is poured in place. Precast roof slabs may be used particularly in industrial buildings.

1. What are the structural elements of building?

2. What may columns and beams be constructed of?
3. Where may pre-cast units be prefabricated?
4. Which units may be precast?
5. What does a bearing wall and curtain wall do?

#### 2.4. LISTENING

① Listen to an architect describing the house. Write the dimensions you hear.

1. total area \_\_\_\_\_.
2. main room, with the kitchen \_\_\_\_\_.
3. bedroom \_\_\_\_\_.
4. bathroom \_\_\_\_\_.
5. height of rooms \_\_\_\_\_.
6. doors, not including frames \_\_\_\_\_.

② Listen a conversation and complete it.

A: We need to make some \_\_\_\_\_(1) to the original plans.

B: What? Why?

A: The new \_\_\_\_\_(2). He wants us to make some \_\_\_\_\_(3).

B: OK. So tell me ... what changes?

A: Well, first he wants to build a floor- to- ceiling \_\_\_\_\_(4) here, on the right. That means strengthening the floor.

B: OK. How about if I do some \_\_\_\_\_(5) and get back to you on that?

A: Yes. I'm OK with that. Thank you. Now, the lighting...

B: What about the lighting?

A: He wants more \_\_\_\_\_(6) lighting. Do you have any thoughts?

B: I know, why don't we remove these \_\_\_\_\_(7) walls?

A: Yes, good idea. He also wants more \_\_\_\_\_(8), a more open- plan design, so that fits in nicely. What do you think?

B: Well, they are only \_\_\_\_\_(9) walls. But we'll need to run the workstation cabling through the floor. Maybe we need to raise the floor?

A: Yes, that's a good point. I'll speak to him again about this. Next thing.. he wants better \_\_\_\_\_(10). He thinks it's too noisy. Can you speak to Ahmed about that?

B: Sure.

A: OK, now the joinery.

B: What about the joinery?

A: Well, the doors and windows stay the same , but he wants us to use FSC timber. It's more \_\_\_\_\_(11) friendly.

B: OK. How about if I speak to the joiners and see what they \_\_\_\_\_(12)?

A: OK. And we need to change the paint.

B: What about the paint?

A: He wants us to use natural paints. No VOCs.

B: Yes, that makes sense. But isn't that more \_\_\_\_\_(13)?

A: Yes, he knows. He's OK with that.

B: OK. I'll organise that.

A: And finally the air conditioning. He wants us to think about different systems, systems that are more energy- \_\_\_\_\_(14) if possible.

B: OK. I'll speak to the HVAC people.

A: There's no need. I'm seeing them later today. I'll speak to them.

B: Thank you.

----------

## UNIT 3 EQUIPMENT

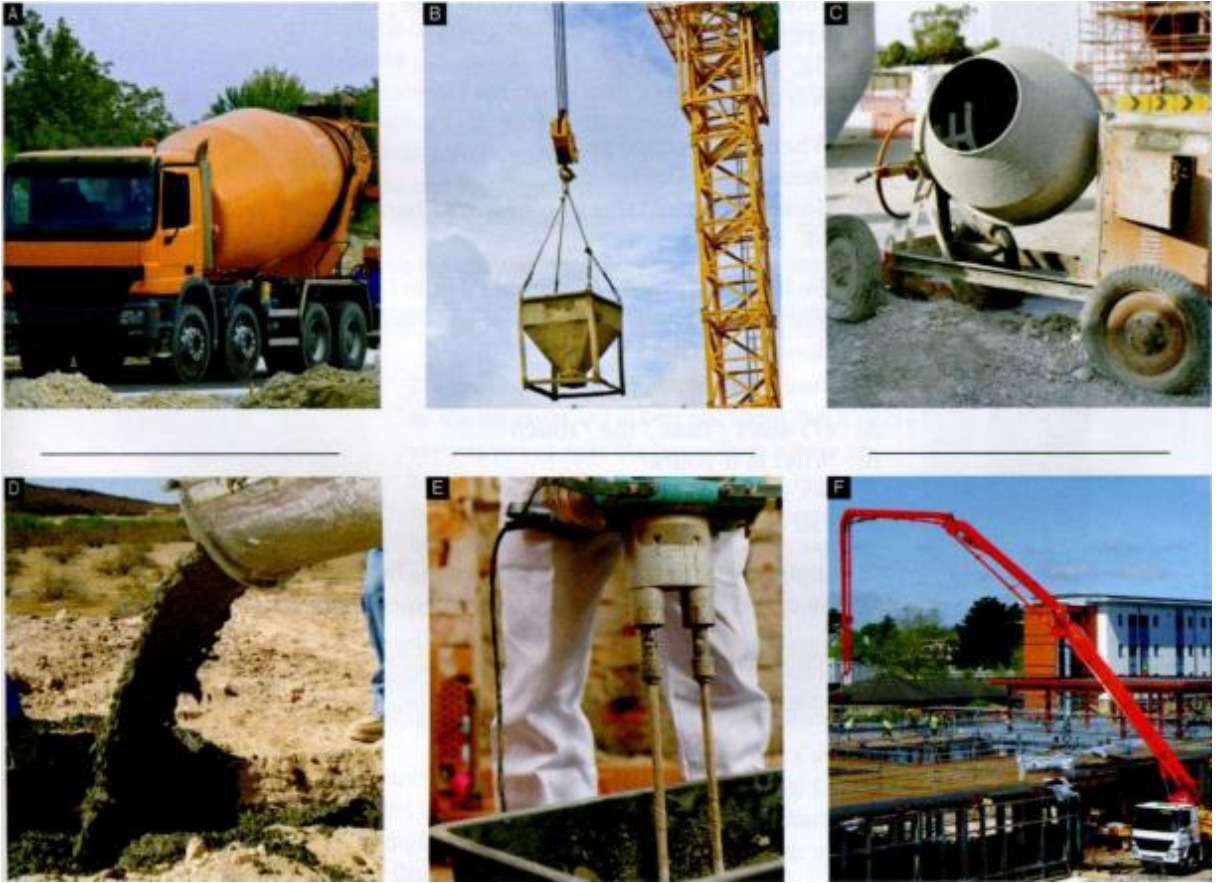
### Objectives:

- *Talk about equipment*
- *Explain faults*
- *Deal with repairs*

### 3.1. VOCABULARY

📄 Look at this construction site equipment and match with words in the box





Mobile crane	Scaffolding	Pile driver	Tower crane	Concrete pump
Backhoe	Bulldozer	Jackhammer	Wheelbarrow	Dumptruck
Portable mixer	Chute	Hand mixer	Hopper	Concrete transport truck

**3.2. SPEAKING**

- ☺ Work in pairs to talk about description, usage of some equipments like that:  
*What does a bulldozer do? It can \_\_\_\_\_./ It's for \_\_\_\_\_./ It's used for\_\_\_\_\_.*  
*What do you use jackhammer for? I use it for \_\_\_\_\_.*

**3.3. READING**

📖 Read this text about mixing concrete and choose True (T) or False (F)

**C**oncrete mixers mix and pour concrete. For small quantities of concrete, hand mixers are ideal. The portable mixer has wheels and uses electricity. It has a small drum which rotates. Concrete transport trucks – or in-transit mixers – transport large quantities of concrete to the site. The drum rotates during transport. The chute man pours the concrete down the chute, or uses a pump to get the concrete to difficult locations. Sometimes a crane lifts a hopper full of concrete to the job site.

1. Concrete mixers mix and pour concrete.
2. For small quantities of concrete, transport trucks are ideal.
3. Portable mixers use electricity.
4. Cranes lift hoppers full of chute men to the job site.
5. In- transit mixers rotate during transport.

### 3.4. LISTENING

Listen and complete the descriptions of construction site equipment. Put one word in each gap and name those machines.

1. This machine is \_\_\_\_\_ driving piles into the soil.
2. This machine has a bucket which is used \_\_\_\_\_ scoop soil out of the ground.
3. This machine \_\_\_\_\_ lift heavy loads high in the air.
4. You \_\_\_\_\_ this machine to move large amounts of earth/
5. This machine \_\_\_\_\_ electricity from petrol.
6. This machine \_\_\_\_\_ used for transporting concrete to high parts of a construction site.
7. This machine is \_\_\_\_\_ transport people to high parts of a construction site.

----- ❧ \* ❧ -----



## UNIT 4 MATERIALS

### Objectives:

- *Order materials*
- *Describe properties of materials*
- *Discuss problems and solutions involving materials*

### 4.1. VOCABULARY

📄 Match the materials to their properties

Materials	Properties
1. Rubber	a) Soft, light, plastic
2. Sand	b) Hard, inorganic
3. Reinforced concrete	c) Brittle, artificial
4. Ceramic tiles	d) Hard, organic
5. Gravel	e) Strong, metal
6. Polystyrene	f) Elastic
7. Timber	g) Strong, natural
8. Steel / Rebar	h) Inorganic
9. Glass	i) Rough

### 4.2. SPEAKING

☺ Work in groups. Talk about properties, usage of some popular materials in construction: wood, glass, steel, rock, brick,...



☺ Work in pairs. Practice a telephone conversation between a supplier and a buyer. Using some phrases in the box.

1	In stock/ out of stock
2	Customer number/ order number
3	Delivery/ pick up
4	Place an order/ change an order
5	Type of goods/ quantity

*Example:*

1) *A: I'd like to place an order. We need thirty bags of cement.*

*B: Certainly. What's your customer number? Do you have transport?*


*A: No, I'm sorry. I don't.*

*B: No problem. We organize delivery. Where is the site?*

2) *A: I want to order some timber.*

*B: I'm sorry. We're out of stock.*

### 4.3. READING

 Read this text and answer these questions:

Concrete is a mixture of small, strong stones, cement and water, which has been densely compacted and left to mature. It is very strong in compression and is durable. As it cracks when stretches, it is designed to contain bars of embedded steel. This reinforced concrete is the most versatile and cheapest structural material available. It is even more effective if the steel reinforcement in the concrete is tightened up or pre- stressed.

The concrete frame is made by pouring the wet mixture into mould and leaving it to harden. If the process is carried out in a factory, the concrete is called precast. If the moulds are used on the site, it is called insitu concrete. The joints between the pieces of concrete can be very neatly made, and an infinite variety of moulded shapes become available.

1. What kinds of raw materials can be used to make concrete?
2. What are advantages of concrete?
3. In what case can concrete crack and how to solve that?
4. How to make concrete more effective?
5. How many ways are applied for making concrete? What are they?



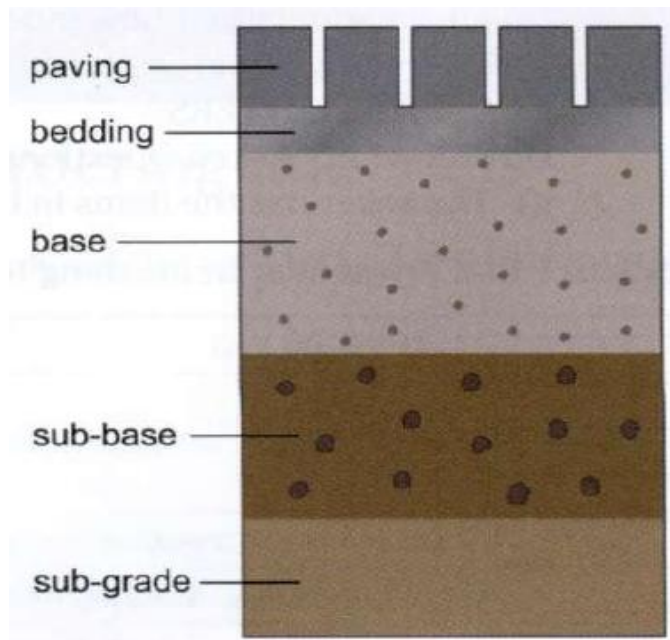
📖 Complete this text about Bahrain International Circuit with the figures in the box

40,509 m<sup>2</sup>   400,000 litres   600   70,000 m<sup>3</sup>   8,500 tonnes

The construction of the circuit was carried out in record time for such a huge project. It was completed in just 485 days – from concept to race. It required 8,265,000 man hours, 2,084 workers, (1) \_\_\_\_\_ of sweet water, 300,000 hollow blocks, 190,810 m<sup>3</sup> paving bricks, 820,000 m<sup>3</sup> rock removing, 300,000 m<sup>3</sup> asphalt, (2) \_\_\_\_\_ concrete, 1,000 tonnes aluminium, (3) \_\_\_\_\_ steel, 7,750 m<sup>2</sup> glass, 30,000 m electric wiring, 70,000 timing circuitry, 78,919 m<sup>2</sup> paint, (4) \_\_\_\_\_ plaster, 10,800 m<sup>2</sup> roofing membrane and finally (5) \_\_\_\_\_ palm trees.

#### 4.4. LISTENING

🎧 Listen and complete this text



There are basically two types of driveway. You can have a firm surface, like stones or \_\_\_\_\_ or asphalt, and you can have a loose surface of aggregate, like gravel or crushed stone. Each type needs layers of different \_\_\_\_\_ underneath the surface layer, and the materials you use for these layers have different \_\_\_\_\_. So, for example, if you want paving stones, you need a bedding layer underneath, which is normally coarse sand or grit. If the sand is too fine, the bedding \_\_\_\_\_ will be too soft.

Under that you may have a base layer, and underneath that you may have another layer, called a \_\_\_\_\_. This sub-base needs to be strong enough to take the weight of vehicles, like family cars. If this sub-base is too \_\_\_\_\_, the driveway will subside, or sink. These two layers will be

aggregates of different sizes. The larger aggregates are at the bottom. The sub-base sits on the \_\_\_\_\_, in other words on the existing ground. On the outside you have edgings.

The edgings are often stone or concrete. Some edgings, like in children's playgrounds, can be elastic. On driveways, the edgings need to be \_\_\_\_\_ enough to hold the paving together. And they need to be tough. Brittle edgings are no good - they break or chip easily. Edgings also need to look attractive. So it's important to think about things like \_\_\_\_\_ and finish, otherwise the finished driveway may look unattractive. You also need to take \_\_\_\_\_ into account. Will the texture be rough or smooth? And then you could also ...

When you put down asphalt, you have to think about its properties. The first is the pen value, or penetration value, which tells you how hard or \_\_\_\_\_ the asphalt is. The pen value depends on the \_\_\_\_\_ and the local temperatures. If the asphalt is too hard, it will crack. If it's too soft, it will distort, or change \_\_\_\_\_. The second \_\_\_\_\_ is cutback, which has to do with how fast the asphalt cures, in other words, how quickly it reaches maximum \_\_\_\_\_ and hardness. Again, this will change depending on local \_\_\_\_\_. Another property is porosity, or how much water the asphalt lets through.

And then there's noise reduction and reflection. Both of these are \_\_\_\_\_ on motorways, but not so \_\_\_\_\_ on driveways. Motorways need to be as quiet as possible, particularly in built-up areas. And they mustn't produce glare which can affect a driver's eyes. The dark surface of the asphalt absorbs light and reduces \_\_\_\_\_. With an asphalt surface you don't have a bedding layer, but you do have a binding layer, which holds everything together.

① Listen a conversation and correct 4 mistakes

<b>Caller:</b> Abdulla	<b>Goods arrived:</b> 9:00
<b>Company:</b> Kawasoki Construction	<b>Goods signed for by:</b> Malik Zahid
<b>Order number:</b> G2356-J	<b>Delivery address:</b> 12 Bridge Road
<b>Goods dispatched:</b> 10:05	

----- ❧ \* ❧ -----

## UNIT 5 PROCESSES

### Objectives:

- *Sequence events*
- *Plan a process*
- *Explain changes*

### 5.1. VOCABULARY

📄 Match the words with their meanings

1. This is a <b>routine</b> job, we do it everyday	a) Outcome
2. What is the <b>procedure</b> for setting out?	b) Steps
3. There are 3 <b>stages</b> in the process	c) Normal
4. The <b>result</b> is a straight line	d) Standard way of operating
5. It's important to be <b>systematic</b>	e) Organised

📄 Complete this text with the words in the box.

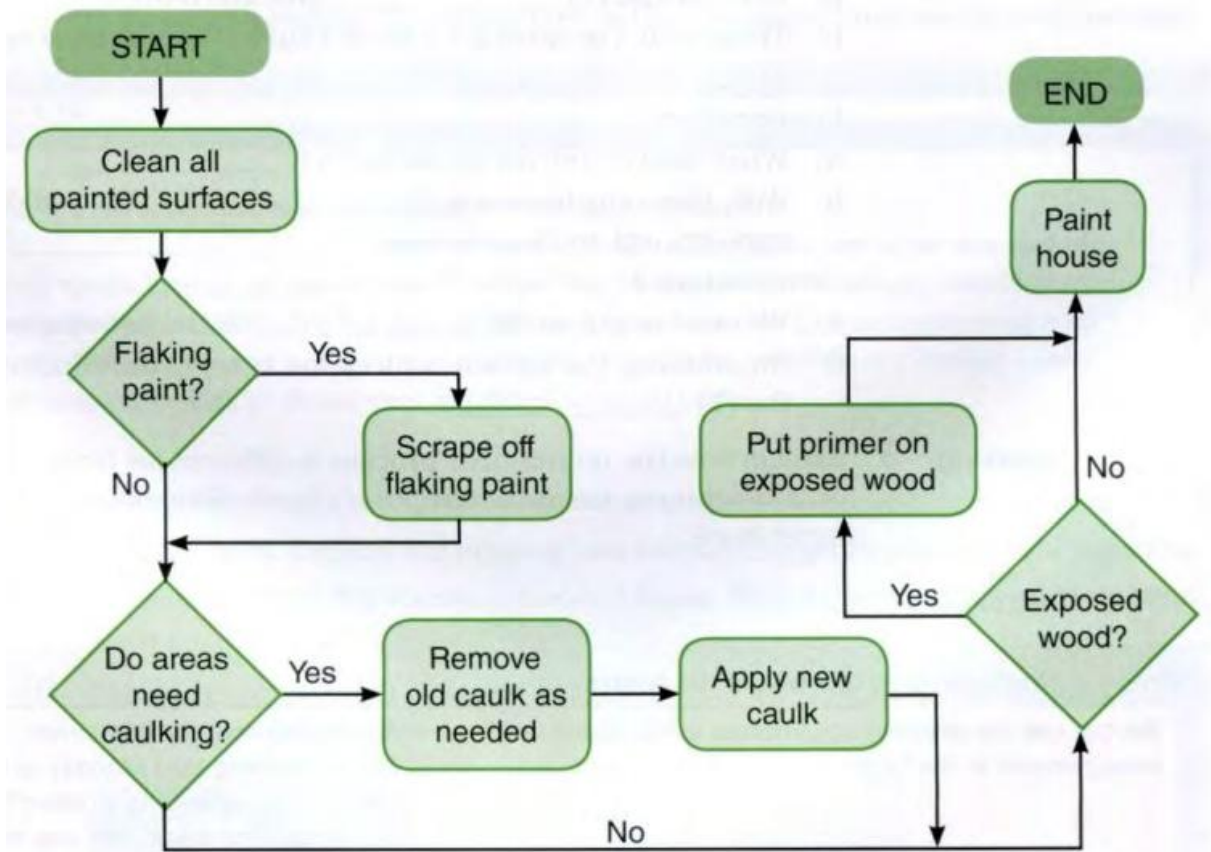
Finally	First	result	routine	stages	Third
---------	-------	--------	---------	--------	-------

We do this every day: it's ( 1 ) \_\_\_\_\_. The procedure is simple. There are only seven (2)\_\_\_\_\_ and the (3) \_\_\_\_\_ is always the same. (4)\_\_\_\_\_, you smile at the guard and say 'Good morning'. Second, the guard smiles back and says 'Good morning'. (5) \_\_\_\_\_, the guard asks you for your ID. After showing him your ID, the guard smiles and says 'Thank you'. Then you also smile and say Thank you'. (6)\_\_\_\_\_, you enter the site.

### 5.2. SPEAKING

☺ Work in pairs, use sequencing markers to explain the process of painting a house

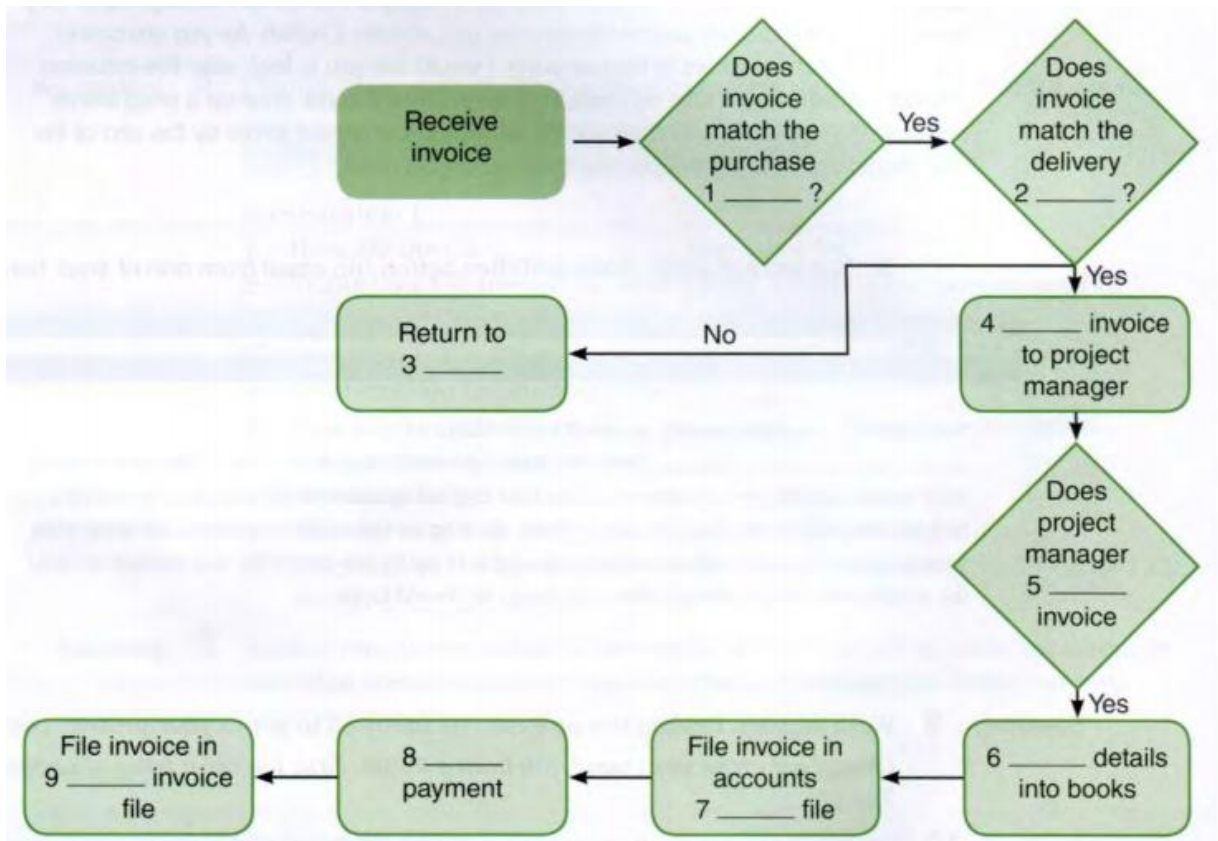
<i>First, ...    Second, ...    Third, ...</i> <i>First of all, ... (Note that we do <b>not</b> say <del>Second of all, ...</del>)</i> <i>Next</i> <i>After that, ... /After + -ing ...</i> <i>Then</i> <i>Finally, ...</i>
<i>That's all I want to say about ...</i> <i>Moving on to the next step ...</i> <i>Before that, ... /Before + -ing ...</i>



### 5.3. READING

📖 Read this text and complete the flowchart.

This is what we used to do. Everyday we got hundreds of invoices from different suppliers. These went straight to the accounts department. Let's imagine that the invoice was for some materials, say, a load of sand. The first thing they did was match the invoice with the purchase order (to check that we had ordered the sand) and the delivery note (to check that the sand had been received). If the documents did not match, the invoice was sent back to the supplier. If they did match, the accounts department entered the details into the books and filled the invoices in the accounts payable file. The payment was then dealt with, normally by bank transfer, within 30 days of receipt of the invoice. The invoices then went into the paid invoices file. These files were kept for ten years.



#### 5.4. LISTENING

① Listen and complete this text

A: HR. Susanne Kohl speaking.

B: Hi, Susanne. It's Peter. \_\_\_\_\_(1)?

A: \_\_\_\_\_(2), \_\_\_\_\_(3). Busy as ever.

B: You left me a message to call you ...

A: Ah, yes. Have you heard the news about Sally?

B: What news?

A: \_\_\_\_\_(4)'s pregnant.

B: So?

A: So you'll need a new structural \_\_\_\_\_(5) for your team.

B: Ah, yes, of course. When is she planning to leave?

A: She said mid-July.

B: OK. Is she coming back \_\_\_\_\_(6) she has the baby?

A: She'll decide later on. But she may take a couple of years off.

B: We'd better think \_\_\_\_\_(7) finding a replacement then. We can't cover for that long.

A: Yes. And even if she does come back, we \_\_\_\_\_(8) extra people in the team, anyway. There's a lot to do.

B: OK, so what's the procedure?

A: Well, first of all you need to identify the key skills you \_\_\_\_\_(9) her replacement to have. And then we need to \_\_\_\_\_(1), or probably just \_\_\_\_\_(10), the job description.

B: OK, that's easy enough.

A: Then we need to \_\_\_\_\_(11), first internally, then externally.

B: OK.

A: Then it's a matter of looking at \_\_\_\_\_(12)'s CVs, producing a shortlist and carrying out the \_\_\_\_\_(13).

B: That's it?

A: Well, we'll also need to check references before we make our final decision. And then we inform the successful applicant and organise the induction.

B: OK. Look. Why don't we meet next \_\_\_\_\_(14) to talk about the key skills you mentioned?

A: Just a second. Let me check my diary. Yes, OK, that sounds good. \_\_\_\_\_(15) o'clock?

B: \_\_\_\_\_(16). See you then.

① Listen and write 4 things the accounts department enter onto the system when they receive an invoice.

----------

## UNIT 6 PROJECTS

### Objectives:

- *Manage tasks*
- *Discuss types of contract*
- *Talk about the scope of a project*

### 6.1. VOCABULARY

📄 Match the words with their meanings

1	Have you seen the first draft of the <b>project plan</b> ?	a)	Land, building, equipment,...
2	The project manager clarified the <b>scope</b> of the project at the meeting.	b)	Document summarising all aspects of the project
3	The new <b>WBS</b> software is saving us a lot of time.	c)	Components
4	Rashid will be in charge of co-ordinating <b>resources</b> for the project.	d)	Without planning
5	The accountants are not happy with the <b>budget</b> .	e)	Official agreement
6	The room for the <b>kick-off meeting</b> has been changed. It's now in Room 2E.	f)	The work that needs to be done
7	The WBS splits the work into smaller <b>elements</b> .	g)	People, materials and other assets available for the project
7	Three firms <b>bid</b> for the contract on the new buildings.	h)	Work Breakdown Structure
8	Please check the <b>invoice</b> No10345 for me.	i)	Cost breakdown
9	The chairman has summoned an <b>impromptu</b> meeting.	j)	Offer to pay a particular price
10	There is a <b>strike</b> on this company	k)	List of goods have been supplied
11	The value of this company's <b>asset</b> is about \$16 billion.	l)	First meeting
12	The <b>contract</b> was fixed to a contractor from New York	m)	Not working



## 6.2. SPEAKING

☺ Use the words in the box to talk about type of meetings you attend.

length location participants planned or impromptu topic(s)

☺ This is a Gant chart of a project. Describe it.



## 6.3. READING

📖 Read the text about contracts and answer these questions


- 1 What is the difference between the two models?
- 2 What are the advantages and disadvantages of the DB model?

Traditionally, most companies use a design bid build (DBB) model. The client finds a company to design their project and then looks for a construction company (or companies) to build it for them. Different companies bid for the work. And finally, the contractor with the most attractive offer is selected and becomes responsible for the project. In the design build (DB) model, the client only has one point of contact. This may be an architect, for example, or a general contractor. There is no bidding. This means that the DB system is faster and cheaper, but of course the client has to hope that quality is not compromised. It is easy for a contractor to cut corners.

📖 Read the text and complete this schedule

I'd like to explain the project schedule for the highway 473 beam bridge. As you can see from the slide, the design phase will take from March to June. At the end of May we'll begin the site preparations, which will take four months. At the beginning of August we'll start work on the foundations. These will take until the beginning of November. In November we'll start work on the piers, which will take around three months. In the middle of February we'll start work on the superstructure, and in June we'll lay the deck. The opening ceremony will be in July next year.

	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Design																	
Site preparations																	
Foundations																	
Pier construction																	
Superstructure																	
Deck																	
Opening ceremony																	

 Read the text below and answer these questions

Thank you all for coming at such short notice. What I want to talk about is communication. Things are not going well. I know that we're all very busy, and that we're all members of other project teams. I also understand that we all come from different companies and have different ways of working. But we need to improve our communication, otherwise we are never going to meet all our deadlines and finish this project on time. I've discussed the communication problem with the directors, and we feel there are a number of things we can do to solve the problem.

First of all, we need to have more meetings - face-to-face or at least online. Secondly, we all use the intranet already, so we have decided to set up a new portal, which will include project updates, documentation, Gantt charts - that is to say project schedules - and tools and templates. There will also be information about team members, specialists, previous experience and so on. We basically need to get to know each other better. And finally the HR department has contacted a company who will organise team-building activities for us, which I will tell you about later. Again, this will help us work better as a team.

1. What types of meeting is it?
2. What is the problem?
3. What are the reasons she give for the problem?
4. Who has she spoken to about the problem?
5. How is she planning to solve the problem?

#### 6.4. LISTENING

① Listen to a consultant explaining 3 types of contract to a client. Circle 3 types you hear.

cost plus    fixed percentage    lump sum    renovation    turnkey

① Listen and complete this text about kick-off meeting

Welcome to this kick-off meeting. I just want to clarify some points about how I see this \_\_\_\_\_(1) running.

First of all, I want to stress the \_\_\_\_\_(2) of the project plan, which is this document, and which covers all \_\_\_\_\_(3) of the project. Among other things, it outlines the \_\_\_\_\_(4), in other words the work that needs to be done in order for the project to be completed \_\_\_\_\_(5). All of us need to be very familiar with this document. In fact, by the end of next week, I expect us all to know this document better than our own \_\_\_\_\_(6).

The second document is the WBS, or Work Breakdown Structure. This splits the work into smaller \_\_\_\_\_(7) which are easier to manage in terms of \_\_\_\_\_(8), \_\_\_\_\_(9), and so on. Each of you will be responsible for your own elements in the WBS, but it's important that you see the big picture, too.

As I see it, I'm really concerned with three issues: \_\_\_\_\_(10), in other words keeping to budget; \_\_\_\_\_(11), or keeping to the schedule and meeting our deadlines; and \_\_\_\_\_(12), which is, as I explained earlier, the work that needs to be done. A change in one of these issues affects the other two. Don't get me wrong, I know changes will happen: change is part of any project. My main job is to continually monitor what's happening, so that I know where we are in terms of the project plan and so that I can fix any problems.

## UNIT 7

### DOCUMENTATION

#### Objectives:

- Explain document control procedures
- Give specific information about documentation
- Discuss project documentation

#### 7.1. VOCABULARY

☞ Match the words with their meanings and some pictures

1	Procedure	a)	A list of the subjects to be discussed at a meeting
2	Contract	b)	A book that gives instructions about how to do something
3	Report	c)	An official agreement between two or more people, stating what each will do
4	Agenda	d)	A way of doing something, especially the correct or usual way
5	Memo	e)	A short official note to another person in the same company or organization
6	Manual	f)	A written or spoken description of a situation or event, giving people the information they need

**A**

**To:** All subcontractors  
**From:** Roberto Camilleri  
**Memo 289 Traffic Control**

Please note that with immediate effect all works traffic is to use Gate B to exit the site. This is to comply with local police requirements.

Roberto Camilleri  
 Project Manager  
 4 May

**B**

**Request for information**

Project: KL Building M (Foundations)  
 Project Manager: Roberto Camilleri

Number	Subject	Status	Date rec/d	Date completed
001	Broken pile	Proceed	3/11	
002	Pump oil	Closed	3/11	4/11
003	Pile orientation	Approved	3/11	4/11
004	Pier 23 Steel	Rejected	4/11	4/11

**C**

Emergency change orders require immediate action to avoid a serious work stoppage, delay and/or extra costs. Verbal approval may be given by the Project Manager, and is to be followed up in writing within one week (Form 34B). The approval is to include details of the emergency situation and, if possible, an estimate of the costs involved.



📄 Match 1-7 with a-g to make sentences

1	We have to send the amendments	a)	enter.
2	You have to press	b)	has a serial number.
3	We have to log and	c)	first thing tomorrow.
4	We have to make sure that each document	d)	out of the document centre.
5	I have to book every document in and	e)	track evrery document.
6	Key documents have to be	f)	written in capital letters.
7	The name has to be	g)	locked in the safe at night.

## 7.2. SPEAKING

😊 Work in pairs. Follow the example conversation below.

agenda change order contract drawing email floor plan manual  
minutes permit presentation procedure report RFI log schedule

amended archived backed up destroyed redrafted revised  
signed wrote

A: I need a copy of the contract

B: Which contract?

A: The contract which we signed last week.

B: We signed two contracts last week.

A: I need the one which has to do with the residential housing project in Takara Road.

B: OK

## 7.3. READING

📖 Complete this document control procedure with the words in the box

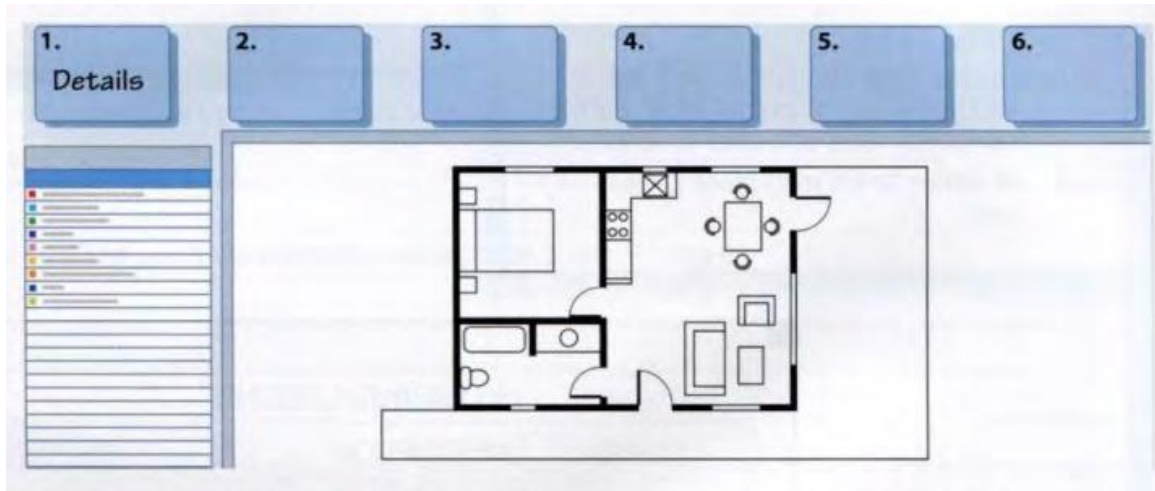
amended archived books out figures  
log number scan track version

When a document comes in, we first make a handwritten note in the (1) \_\_\_\_\_. If necessary, we give it a serial (2) \_\_\_\_\_. We then (3) \_\_\_\_\_ it in, so that we have a permanent electronic record. As you can see, the serial number ends with a slash and then another number, always three (4) \_\_\_\_\_. So, 001 is the first (5) \_\_\_\_\_ of the document. If the document is (6) \_\_\_\_\_

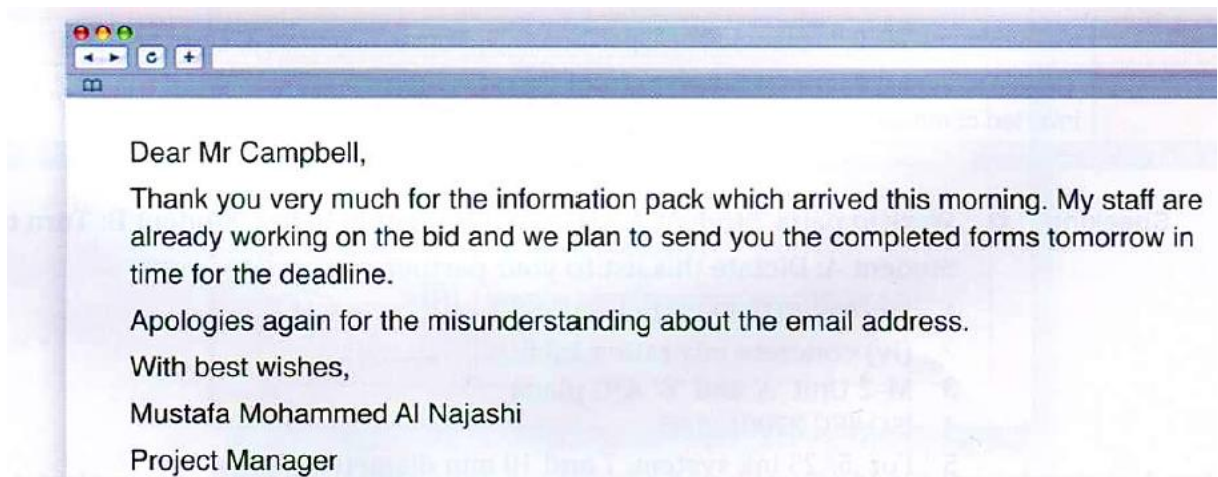
or updated in any way, it receives a new version number and so on. We also use the log to (7) \_\_\_\_\_ the movement of the document. If someone (8) \_\_\_\_\_ the document, the date and time are recorded here and when it comes back in, the date and time are recorded again. At the end of the project, the document is either destroyed or (9) \_\_\_\_\_, depending on its importance.

## 7.4. LISTENING

① Listen to a conversation about a document management system. Label the buttons on the screenshot.



① Listen and complete this conversation about the bid



A: Ministry of Public Works. Alexandra Puccini speaking.

B: Hello? Is that the Ministry of Public Works?

A: Yes, that's right. How can I help you?

B: I'd like to speak to somebody about a \_\_\_\_\_(1) we'd like to submit.

A: One moment, please. I'll put you through to Hamish Campbell.

B: Thank you.

C: Hello. Hamish Campbell speaking.

B: Hello, Mr Kandell. My name is Mustafa Mohammed Al Najashi. I'd like to speak to someone about a tender.

C: The name's Campbell, not Kandell.

B: Oh, I'm sorry, Mr Campbell.

C: No problem. A tender? Do you have a project number?

B: Yes, it's KZH 897.

C: KZH 897? One moment, please. Ah, yes. It's to do with the \_\_\_\_\_(2) refurbishment on Highway 36.

B: Yes, that's right.

C: How can I help you?

B: It's about an email which I sent you on the 27th of May, confirming that my company would like to bid for the project and asking for more information. But I haven't received anything. And I believe the \_\_\_\_\_(3) is next week.

C: What did you say your name was?

B: Mustafa Mohammed Al Najashi.

C: Ah, yes, yes. Mr Al Najashi. Is it your company which is doing the \_\_\_\_\_(4) refurbishment on the same highway?

B: Yes, that's right.

C: Yes, yes, I remember. Ah, I've found it now. We sent you a reply asking for your \_\_\_\_\_(5) address, but I'm afraid the email bounced.

B: Bounced?

C: Yes. The address is \_\_\_\_\_(6).

B: Ah, wait a minute. What email address did you send it to?

C: mman@psl.net.

B: Ah, no, no. That email address is no good. It's been changed. I'm sorry. My new address is \_\_\_\_\_(7).

C: I see. No problem. You're still in time if you'd like to submit a tender.

B: Thank you. Will you send me the necessary \_\_\_\_\_(8)?

C: Yes, but I do need your postal address first. I'd like to send you the information pack, but it's not available in \_\_\_\_\_(9) format. Snail mail, I'm afraid.

B: Of course. It's ... erm ... are you ready?

## UNIT 8

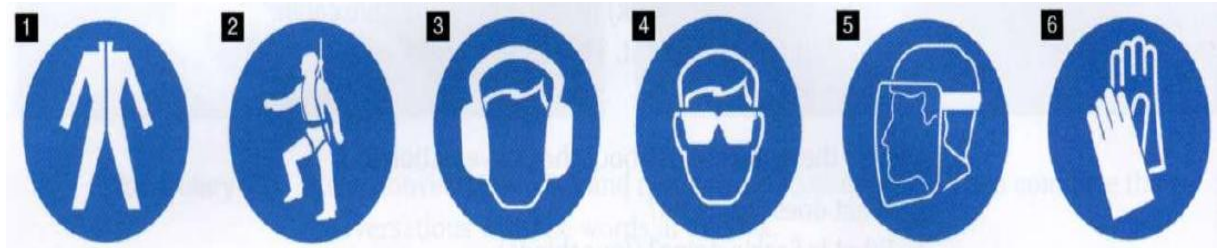
### HEALTH AND SAFETY

#### Objectives:

- Identify warning signs
- Explain injuries

#### 8.1. VOCABULARY

Look at these signs and complete their meanings with the words in the box



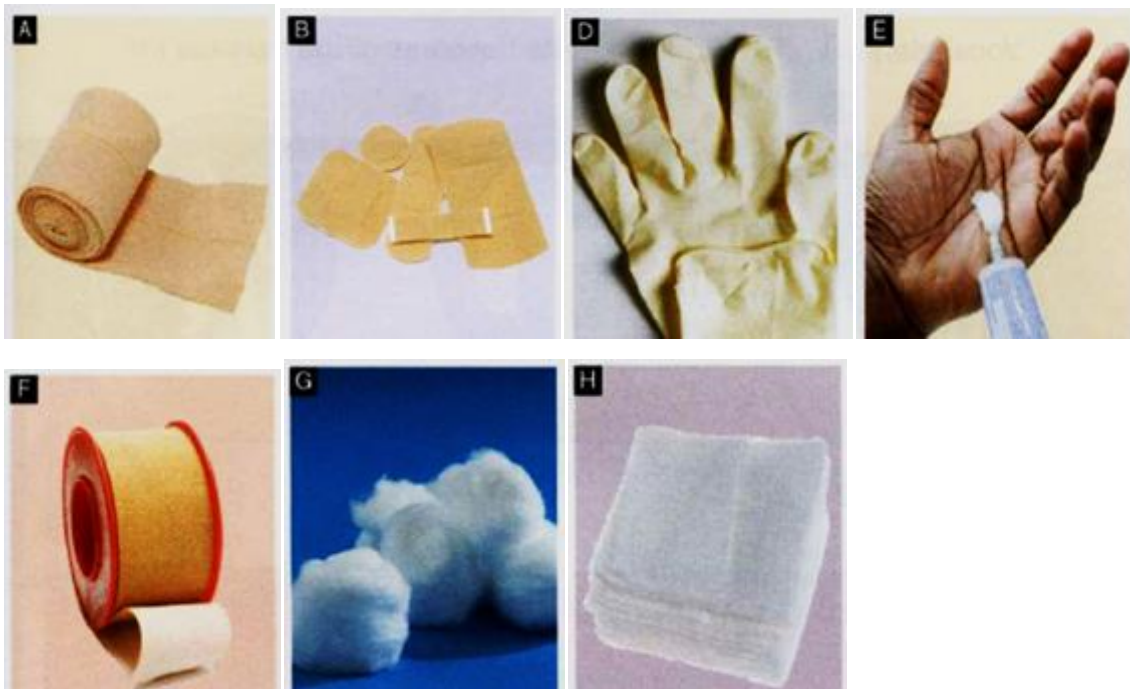
a harness   a mask   ear protection   gloves  
protective clothing   safety glasses

1. You must wear \_\_\_\_\_.
2. You must wear \_\_\_\_\_.
3. You must wear \_\_\_\_\_.
4. You must wear \_\_\_\_\_.
5. You must wear \_\_\_\_\_.
6. You must wear \_\_\_\_\_.

Match the words with their meanings and pictures

1	Bandage	a)	A long thin piece of plastic or cloth
2	Plaster	b)	A special piece of material used to cover and protect a wound
3	Tape	c)	A soft mass of cotton use for cleaning and protecting wounds
4	Antiseptic	d)	A piece of clothing that you wear on your hand
5	Cotton wool	e)	A narrow piece of cloth that you tie around a part of the body that has been injured
6	Dressing	f)	A piece of thin material that is stuck on to the skin to cover a small wound
7	Glove	g)	A medicine that you put onto a wound to stop it from becoming infected

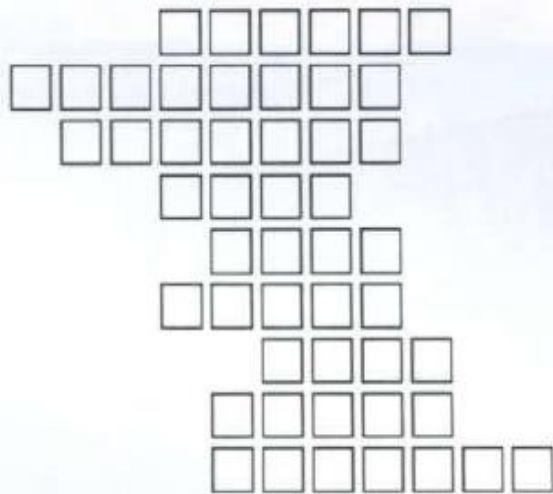




Use clues 1-9 to fill in the squares. What health and safety advice do you read in the column?

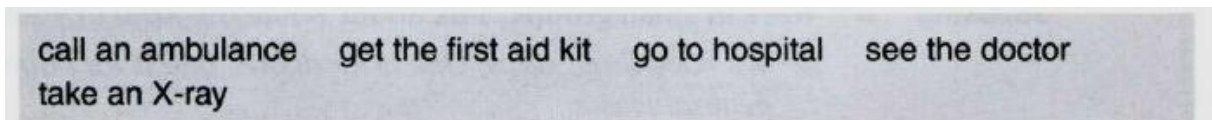
**Clues:**

- 1 overhead \_\_\_\_\_
- 2 \_\_\_\_\_ surface
- 3 falling \_\_\_\_\_
- 4 suspended \_\_\_\_\_
- 5 \_\_\_\_\_ hazard
- 6 stand \_\_\_\_\_
- 7 \_\_\_\_\_ lift truck
- 8 \_\_\_\_\_ dog
- 9 safety \_\_\_\_\_



**8.2. SPEAKING**

Work in pairs. Tell your partner about injuries and explain how it happened. Your partner explains what to do using the phrases in the box.



Example: A: I cut my finger on some broken glass.

B: You need to get the first aid kit. First, clean the cut ...

☺ Look at this illustration. Circle the health and safety problems you see and talk about those problems.




### 8.3. READING

📖 Read these sentences. What sign is needed?





1. There are men working on the roof today. \_\_\_\_\_
2. The new security company uses dogs. \_\_\_\_\_
3. There are power cables near the fence. \_\_\_\_\_
4. There's a lot of debris on the ground. \_\_\_\_\_
5. We're erecting the scaffolding this afternoon. \_\_\_\_\_
6. We're using the crane today. \_\_\_\_\_
7. We're moving the timber today. \_\_\_\_\_
8. There's oil on the ground. \_\_\_\_\_


 Read this extract and list the preparations you need to make.

### Hurricane preparation tips for construction sites

Local emergency operations officials and the National Weather Service will provide hurricane landfall probabilities. Approximately 60 to 48 hours before the hurricane is expected to make landfall, consider cancelling the delivery of building materials to all job sites except any materials needed to secure the building site from storm damage.

While contractors generally don't want to stop or delay construction activities, the 48- to 24-hour window before landfall is the suggested time to stop all construction activity. It's important to note that most local building departments generally stop field inspections, except for those related to pouring columns, tie beams, wet decks, floors and similar structural items, during this time as well.

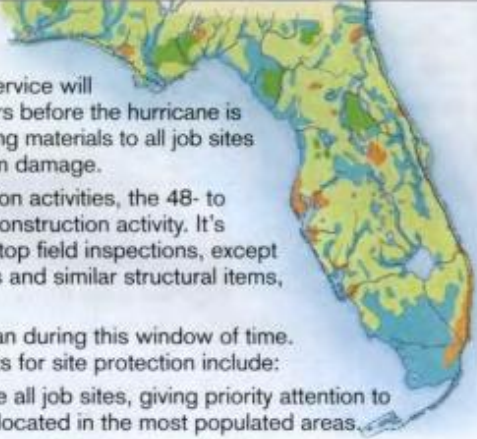
Contractors are encouraged to activate their hurricane job site plan during this window of time. Notify subcontractors to help secure the building site. Helpful hints for site protection include:



- Secure all job sites, giving priority attention to those located in the most populated areas.
- Clean up all construction debris.
- Tie or band together all loose plywood and lumber. Secure other loose building supplies.
- Remove permit board and all job site signage.
- Locate and turn off electricity, water and gas.

Also, secure all portable toilets. Portable toilets can also be anchored adjacent to L-shaped walls of the home under construction and they can be weighted down with concrete blocks or sand.

After the site is secure, advise subcontractors to leave and not return until the hurricane threat has passed. Make sure to have contact numbers for all subcontractors stored in a secure and dry place and that they know who will contact them after the hurricane passes.



**8.4. LISTENING**

① Listen to six conversations about injuries on site and complete them.

1. A: Can I help you?

B: Hello, doctor. Yes, please. I think I sprained my \_\_\_\_\_(1) yesterday. I tripped on some \_\_\_\_\_(2) on the building site.

A: Let's have a look. Yes, it's very swollen. You need an \_\_\_\_\_(3).

2. A: What's up?

B: It's not me. It's Ahmed. He fell off the \_\_\_\_\_(4). He broke his \_\_\_\_\_(5).

A: I'll call an \_\_\_\_\_(6)!

B: Yes, hurry!

3. A: What's the matter?

B: He burnt his \_\_\_\_\_(7). He was welding.

A: Ouch!

4. A: I hurt my \_\_\_\_\_(8) because the \_\_\_\_\_(9) was too heavy. Can I go and see the doctor?

B: Of course. Let me know what he says.

5. A: That glass is \_\_\_\_\_(10). I cut my \_\_\_\_\_(11).

B: Be carefull! You're dripping blood on me.

A: Sorry! Any idea where the first \_\_\_\_\_(12) is?

B: In the site manager's office.

A: Thanks.

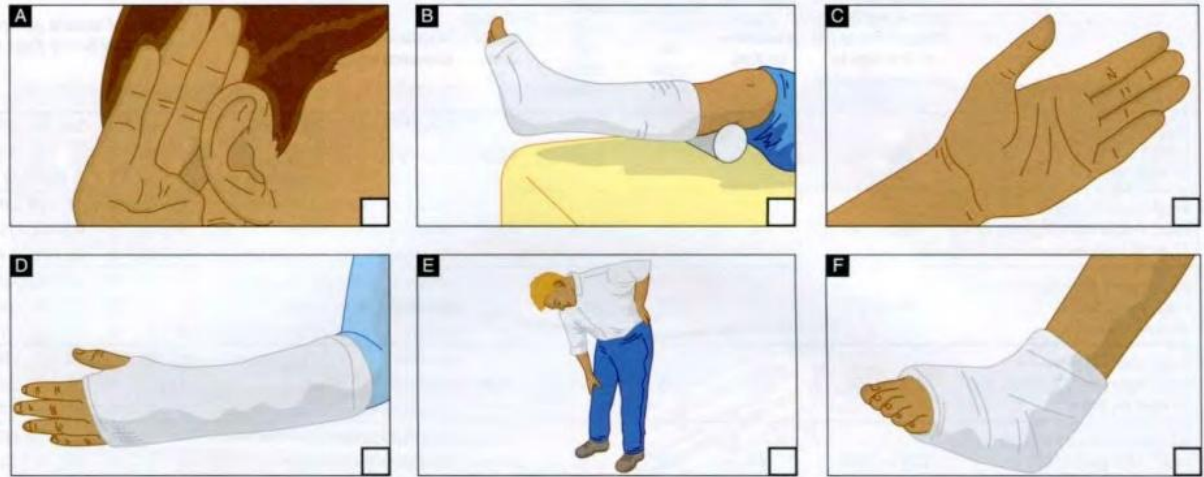
6. A: What's happened?

B: The \_\_\_\_\_(13) crushed his hand.

A: How?

B: It fell off the \_\_\_\_\_(14).

① Listen to 6 conversations about accidents. Match these illustrations with the conversations and complete them.



1. A: A friend of mine had white \_\_\_\_\_(1) syndrome from using \_\_\_\_\_(2) power tools. He lost all feeling in his hands.  
 B: Sounds \_\_\_\_\_(3).
2. A: I had an accident last year. I tripped over a cable and fell. I put out my \_\_\_\_\_(4) to stop myself and broke my \_\_\_\_\_(5).  
 B: Ouch. I bet that hurt.
3. A: I saw an accident this morning. One of the labourers dropped a \_\_\_\_\_(6) of bricks on his foot. He was only wearing sandals, not \_\_\_\_\_(7), which didn't help.  
 B: What? I'll speak to the manager. Everyone needs boots.
4. A: \_\_\_\_\_(8) injuries are very common. People lift things which are too heavy.  
 B: Straight back, bend the \_\_\_\_\_(9)s. That's what I always say.
5. A: One of the \_\_\_\_\_(10) was hit by a truck. He wasn't wearing his hi-vis vest and the other driver didn't see him. The \_\_\_\_\_(11) hit his leg just below his knee and fractured it.  
 B: I bet he wears his vest from now on.
6. A: People don't use \_\_\_\_\_(12) and then damage their hearing. It's a \_\_\_\_\_(13) process, so they're not aware of what's happening.  
 B: Pardon? What did you say?